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22971 7590 08/13/2007 MICROSOFT CORPORATION ONE MICROSOFT WAY REDMOND, WA 98052-6399			EXAMINER CHOWDHURY, SUMAIYA A	
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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## Office Action Summary

Application No.

09/734,973

Applicant(s)

PANABAKER, RUSTON

Examiner

Sumaiya A. Chowdhury

Art Unit

2623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 June 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-18,30,36-38 and 40-45 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18,30,36-38 and 40-45 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/12/07 has been entered.

### ***Response to Arguments***

2. Applicant's arguments with respect to claims 1-18, 30, 36-38 and 40-45 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 3, 5, 7-11, 14-18, 36-38 and 40-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carr (US Pat App Pub No 2003/0133043) in view of Mori (7013479), in view of Kuzma (US Pat No 5,889,950), in view of Boetje (6198906)

further in view of the ATVEF specification and further in view of Keronen et al. (US Pat No 6,567,530).

In regard to claim 1, the Carr reference discloses a method and apparatus of communicating audio/video programs with enhancement data. The claimed step of obtaining a schema document, the schema document comprising a trigger data structure an announcement data structure, and a package data structure defining enhanced programming content is met by the content creator 12 providing enhancement data to transport operator 14 (Figure 1). The enhancement data provided by the content creator 12 includes "an ATVEF announcement, a resource, and a trigger" (Paragraph 0020, Lines 3-4). The enhancement data includes synchronization information (Paragraph 0013). The announcement data meets the limitation of a package data structure. "An announcement may describe the location of both the resource stream and the trigger stream" (Para 0021, Lines 5-6). The claimed step for a timeline data structure regarding timing for the delivery of enhanced programming content is met by storage medium 113 and the controller 106 (Figure 2). The enhancement data is stored in storage medium 113 and is "accessed" by the controller 106. "The controller 106 may be run under control of a software routine 108 (referred to as a transport routine). The transport routine 108 may initially be stored in a storage medium 104 and loaded by the controller 106 for execution. Instructions and data of the transport routine 108 may also be stored in the storage medium 104" (Paragraph 0034, Lines 12-17). "The enhancement data and special announcements may be stored in a

storage medium 113" (Paragraph 0034, Lines 23-25). The enhancement data stored includes an ATVEF announcement, which provides the instruction for delivery of the enhanced programming content. "The controller 106 detects presence of announcements when they appear at the ATVEF announcement address and port in the transport operator system 14. The announcements are separated out onto different IP addresses corresponding to the A/V channels, with one IP address assigned for the one or more ATVEF announcements associated with each A/V channel" (Paragraph 0038, Lines 12-19). The enhancement data is stored in storage medium 113 and is "accessed" by the controller 106, where the enhancement data includes synchronization information. The examiner interprets synchronization information to be timeline data. The enhanced programming content includes the trigger data structure, announcement data structure, package data structure and timeline data structure (As discussed earlier, Carr teaches the enhancement data includes an ATVEF announcement (package data), a resource, trigger, and synchronization information (timeline data) each corresponding to it specific structures respectively– [0020], [0021], [0013], [0034], [0038]).

The reference fails to explicitly disclose the claimed step of the timeline data structure containing instructions for specifying times relative to a specific start time for delivery and a particular order for delivering each of the trigger, announcement and package data structures to the receiver. The reference also fails to explicitly disclose the step analyzing the timeline data structure to determine when to deliver each of the trigger, announcement and package data structures.

In an analogous art, Mori teaches a timeline data structure (schedule) which specifies the time for delivery of a trigger signal (i.e. "reproduction message") and cache message from the distribution unit to the receiver (col. 4, line 62-col. 5, line 7). The distribution unit stores the schedule indicating a desired synchronization between the items of enhanced content and the broadcast program with which the enhanced content is associated (col. 4, lines 38-62). The message transmitting unit analyzes the schedule and transmits the cache message and the reproduction message in accordance with the schedule shown in the message scheduling table 110b (fig. 6, col. 5, lines 17-20, col. 7, lines 52-67).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify Carr's invention to include the above mentioned limitation, as taught by Mori, such that the receiver can immediately display an image in response to any possible interactive operation without causing the user to wait even immediately after a data broadcast program is started.

However, Carr and Mori fail to teach:

A schema document that is generic and non-specific to hardware that comprises a timeline data structure specifying a particular order for delivering each of the trigger, announcement and package data structures to the receiver; and

the timeline including a loop attribute to prevent multiple deliveries of the enhanced programming content to the receiver.

Kuzma teaches a schema document that is generic and non-specific to hardware (Figures 3-6, Co 2, Lines 38-54; Col 5, Line 63-Col 7, Lines 14).

Consequently, it would have been obvious to one of ordinary skill in the art to implement Carr with a schema document that is generic and non-specific to hardware such that it is compatible with any device.

However, Carr, Mori, and Kuzma fail to teach  
that comprises a timeline data structure specifying a particular order for  
delivering;

the timeline including a loop attribute to prevent multiple deliveries of the  
enhanced programming content to the receiver.

In an analogous art, Boetje teaches specifying an order of when to deliver  
relative to a specific start time. For example, a schedule is created which specifies that  
an event will start 30 min from start of the playlist. – col. 14, line 12-col. 15, line 27.

It would have been obvious to one of ordinary skill in the art at the time of  
applicant's invention to modify Carr, Mori, and Kuzma's invention to include the above  
mentioned limitation, as taught by Boetje, to enable immediate cross-checking for  
violation of temporal constraints when time values are changed for violation of temporal  
constraints when the playlist is changed.

The combination of Carr, Mori Kuzma, and Boetje fail to explicitly disclose the  
timeline including a loop attribute to prevent multiple deliveries of the enhanced  
programming content to the receiver.

The ATVEF specification teaches a loop attribute to prevent multiple deliveries of  
the enhanced programming content to the receiver. The ATVEF specification discloses  
with respect to the parameter RetransmitExpiration: "This allow a resource to be

carouseled, or sent repeatedly to increase the chances of delivery without missing segments. Set to zero if the resource will not be retransmitted" (Page 22).

Consequently, it would have been obvious to one of ordinary skill in the art to the combined teaching with a loop attribute to prevent multiple deliveries of the enhanced programming content to the receiver so as to conform to the ATVEF specification.

The combination of Carr, Mori Kuzma, Boetje and the ATVEF specification fail to explicitly disclose the step of verifying the authenticity of the schema document by comparing the schema document against a stored standardized schema document.

Keronen teaches verifying the authenticity of a document by comparing the document by comparing a document against a stored standardized document so as to ensure that a document is of proper form (Col 2, Lines 22-27).

Consequently, it would have been obvious to one of ordinary skill in the art to implement the combined teaching with verifying the authenticity of a document by comparing the schema document by comparing a document against a stored standardized document so as to ensure that a document is of proper form.

In regard to claim 3, the claimed step for accessing the schema document comprises the step of retrieving the schema document from a repository containing a plurality of schema documents is met by storage medium 113 and the controller 106 (Figure 2 of Carr). The enhancement data is stored in storage medium 113 and is "accessed" by the controller 106. "The controller 106 may be run under control of a software routine 108 (referred to as a transport routine). The transport routine 108 may



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initially be stored in a storage medium 104 and loaded by the controller 106 for execution. Instructions and data of the transport routine 108 may also be stored in the storage medium 104" (Paragraph 0034, Lines 12-17). "The enhancement data and special announcements may be stored in a storage medium 113" (Paragraph 0034, Lines 23-25). The enhancement data stored includes an ATVEF announcement, which provides the instruction for delivery of the enhanced programming content. "The controller 106 detects presence of announcements when they appear at the ATVEF announcement address and port in the transport operator system 14. The announcements are separated out onto different IP addresses corresponding to the A/V channels, with one IP address assigned for the one or more ATVEF announcements associated with each A/V channel" (Paragraph 0038, Lines 12-19).

In regard to claim 5, the claimed limitation of the enhanced programming content comprising at least one of an announcement element, a trigger element, and a package element is met by the content creator 12 providing enhancement data to transport operator 14 (Figure 1 of Carr). The enhancement data provided by the content creator 12 includes "an ATVEF announcement, a resource, and a trigger" (Paragraph 0020, Lines 3-4). The enhancement data includes synchronization information (Paragraph 0013). The examiner interprets the resource to be the package element.

In regard to claim 7, the claimed step of synchronizing the enhanced programming content with the television programming is met by "a trigger synchronizes the enhancement data with the TV transmission" (Paragraph 0021 of Carr).

In regard to claim 8, the reference discloses that the enhancement data is delivered with a communications protocol. "The three components may be transmitted using Internet Protocol (IP) multicast to the receivers" (Paragraph 0021 of Carr).

In regard to claim 9, the Carr reference discloses two types of protocols which met the limitations for transport A protocol and transport B protocol. "The three components may be transmitted using Internet Protocol (IP) multicast to the receivers. An IP multicast standard is described in Request for Comment (RFC) 1301, entitled "Multicast Transport Protocol." RFCs may be available at website address [<http://www.ietf.org/rfc.html>]" (Paragraph 0020, Lines 4-8). And, the "ATVEF Specification may utilize a one-way transmission protocol (the Unidirectional Hypertext Transfer Protocol or UHTTP, described in the ATVEF Specification) to deliver resource data" (Paragraph 0021, Lines 9-12).

In regard to claim 10, the Carr reference discloses a method and apparatus of communicating audio/video programs with enhancement data. The reference fails to explicitly disclose delivering the enhanced programming content before a deliver-by time. However, it is submitted that it would have been clearly obvious to one of ordinary

skill in the art at the time of the invention to implement the Carr system with delivering the enhanced programming content before a deliver-by time so as to ensure that the receiver system receives the enhanced programming data necessary for an interactive viewing experience.

In regard to claim 11, the Carr reference discloses a method and apparatus of communicating audio/video programs with enhancement data. The reference fails to explicitly disclose delivering the enhanced programming content by a start time. However, it is submitted that it would have been clearly obvious to one of ordinary skill in the art at the time of the invention to implement the Carr system with delivering the enhanced programming content by a start time so as to allow the receiver system to be interactive.

In regard to claim 14, the claimed step for delivering an announcement signal comprising the announcement data structure to the receiver, the announcement signal identifying tile availability of enhanced programming content to the receiver is met by the ATVEF announcement. "Generally, an ATVEF announcement indicates that enhancement data is being transmitted, a resource includes one or more files that contain the enhancement data" (Paragraph 0021, Lines 1-3 of Carr). The steps of delivering a package comprising the package data, delivering a trigger signal comprising the trigger data structure and in response to a selection by the viewer to receive the enhanced programming content, a step for displaying the enhanced

programming content to the viewer is met by: "Generally, an ATVEF announcement indicates that enhancement data is being transmitted, a resource includes one or more files that contain the enhancement data, and a trigger synchronizes the enhancement data with the TV transmission. An announcement may describe the location of both the resource stream and the trigger stream. For each television (TV) channel, one or more enhancements may be offered as choices presented to the user, who can select which of the enhancements, if any, to view" (Paragraph 0021, Lines 1-9 of Carr).

In regard to claim 15, the "package" may include at least one file containing enhanced programming content. "Enhancement data may include graphics (e.g., web pages, multimedia information, or other digital data files), presentation layout" (Paragraph 0013, Lines 13-15 of Carr).

In regard to claim 16, the "package" may include at least one link to enhanced programming content. "Enhancement data may include graphics (e.g., web pages, multimedia information, or other digital data files), presentation layout" (Paragraph 0013, Lines 13-15 of Carr).

In regard to claim 17, the aforementioned combined teaching discloses a method and apparatus of communicating audio/video programs with enhancement data. The reference fails to explicitly disclose the trigger comprising a link to enhanced programming content. However, the examiner gives OFFICIAL NOTICE that it is

notoriously well known that a trigger comprises a link to enhanced programming content so as to announce the availability of the interactive television experience to the user. Consequently, it would have been clearly obvious to one of ordinary skill in the art to implement the combined teaching with a trigger that comprises a link to enhanced programming content so as to announce the availability of the interactive television experience to the user.

In regard to claim 18, the step of accepting a notification displayed to the viewer of the availability of enhanced programming content is disclosed. "For each television (TV) channel, one or more enhancements may be offered as choices presented to the user, who can select which of the enhancements, if any, to view" (Paragraph 0021, Lines 7-9 of Carr).

In regard to claims 36-37, Carr discloses the communications line comprises a plurality of different channels. "To provide for greater flexibility and/or to alleviate bandwidth concerns of the transport medium 22, some embodiments of the invention transmit (using IP multicast) enhancement data associated with multiple A/V channels (e.g., TV channels) over a link that is separate from the transport medium used to transmit A/V content (or, alternatively, that is part of the same delivery mechanism as the A/V content but is not associated with any A/V channel, e.g., an MPEG-2 transport stream with ancillary information in a data-only program separate from the A/V programs)" (Paragraph 0025, Lines 1-10 of Carr).

In regard to claim 38, the Carr reference discloses a method and apparatus of communicating audio/video programs with enhancement data. The Carr reference discloses that method may be implemented with a computer readable medium carrying computer-executable instruction. "The software or firmware can be loaded into the information delivery system in one of many different ways. For example, instructions or other code segments stored on one or more storage media or transported through a network interface card, modem, or other interface mechanism may be loaded into the system 10 and executed to perform programmed acts. In the loading or transport process, data signals that are embodied as carrier waves (transmitted over telephone lines, network lines, wireless links, cables and the like) may communicate the instructions or code segments to the information delivery system" (Paragraph 0053 of Carr).

In regard to claim 40, the aforementioned combined teaching discloses a method and apparatus of communicating audio/video programs with enhancement data. The combined teaching fails to explicitly disclose using a tag to validate the authenticity of the document. However, the examiner gives OFFICIAL NOTICE that it is notoriously well known to use tag for identification purposes so as to ensure correct receipt of information. Consequently, it would have been clearly obvious to one of ordinary skill in the art to implement the combined teaching with the use of tags for identification purposes so as to ensure correct receipt of information.

In regard to claim 41, the time stamp is a deliver by time for the enhancement data.

In regard to claim 42, the time stamp indicated an order with respect to time for deliver.

In regard to claim 43, the aforementioned combined teaching fails to explicitly disclose that the timeline data structure is zeroed at the beginning of the programming. However, it is submitted that it would have been clearly obvious to one of ordinary skill in the art to implement the aforementioned combined teaching with a timeline data structure that is zeroed at the beginning of the programming so as to provide a time reference that is relative to the programming.

In regard to claim 44, video inherently has a specific number of frames per unit of time (e.g. 30 frames/second). By specifying time, a number of frames are also specified.

In regard to claim 45, the aforementioned combined teaching fails to explicitly disclose providing enhancement content via email, separate from the a/v programming. However, the examiner gives OFFICIAL NOTICE that it is notoriously well known to provide enhancement content via email, separate from the a/v programming so as to

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allow the user to use their PC to perform tasks with the enhancement content that are not associated with the programming receiver, thereby increasing system functionality. Consequently, it would have been clearly obvious to one of ordinary skill in the art to implement the combined teaching with providing enhancement content via email, separate from the a/v programming for the stated advantage.

1. Claims 2, 4, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carr, Kuzma, Boetje ATVEF specification, Keronen et al. and further in view of Valdez Jr. (US Pat No 6,426,778).

In regard to claim 2, the aforementioned combined teaching of claim 1 fails to explicitly disclose a step for viewing television programming deliverable to the receiver and in response to viewing the television programming, a step for creating the schema document associated with the television programming. The Valdez Jr. reference teaches viewing television programming deliverable to the receiver so as to facilitate the editing of the "compositions" or enhance content and in response to viewing the television programming creating the schema document associated with the television programming so as to enhance the viewing pleasure of the television viewer. "Media playback 311 provides a facility for playing back compositions locally at the playback system or may transmit a composition as video transmission 321 and data transmission 323" (Col 8, Lines 36-40). And, "to support editing of compositions of such a variety of media, a media editing system 309 is provided that may create data structures for



organizing and storing information regarding a composition and perform operations for manipulating these data structures" (Col 8, Lines 22-26). Consequently, it would have been obvious to one of ordinary skill in the art to implement the combined teaching with viewing television programming deliverable to the receiver so as to facilitate the editing of the "compositions" or enhance content and in response to viewing the television programming creating the schema document associated with the television programming so as to enhance the viewing pleasure of the television viewer.

In regard to claim 4, the combined teachings of Carr, Mori, Kuzma, Boetje, ATVEF specification, and Keronen fails to explicitly disclose the step for creating the schema document comprises a step for creating the schema document with an authoring tool. The Valdez Jr. reference teaches a graphical user interface with an enhanced program editing system so to increase the ease of use for the operator. Consequently, it would have been obvious to one of ordinary skill in the art to implement the combined teaching with the step for creating the schema document comprises a step for creating the schema document with an authoring tool for the stated advantage.

In regard to claim 30, the aforementioned combined teaching of claim 1 fails to explicitly disclose the use of XML. The Valdez Jr. reference teaches the use of XML so as to represent a wide variety of document types. Consequently, it would have been obvious to one of ordinary skill in the art to implement the combined teaching with the use of XML for the stated advantage.

2. Claims 6 and 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carr, Mori, Kuzma, Boetje, ATVEF specification, Keronen et al. and further in view of Goodman et al. (US Pat No 6,427,238).

In regard to claim 6, the aforementioned combined teaching of claim 1 fails to explicitly disclose delivering the enhanced programming content in an order selected from the group consisting of a sequential order and an asynchronous order. This claimed step is interpreted by the examiner as being written in the alternative, such that the claimed limitation may be met by delivering the enhanced programming content in a "sequential order" or "an asynchronous order." The Goodman et al. reference teaches a timeline data structure that functions as the carousel data structure where the data modules are in sequential order (Figure 3) so as to provide a cyclic time-structured method of providing enhanced programming to the viewer. Consequently, it would have been obvious to one of ordinary skill in the art to implement the combined teaching with a timeline data structure that functions as the carousel data structure so as to provide a sequentially cyclic time-structured method of providing enhanced programming to the viewer.

In regard to claim 12, the aforementioned combined teaching of claim 1 fails to explicitly disclose a timeline data structure that functions as the carousel data structure. The Goodman et al. reference teaches a timeline data structure that functions as the

carousel data structure so as to provide a cyclic time-structured method of providing enhanced programming to the viewer. Consequently, it would have been obvious to one of ordinary skill in the art to implement the combined teaching with a timeline data structure that functions as the carousel data structure so as to provide a cyclic time-structured method of providing enhanced programming to the viewer.

In regard to claim 13, the aforementioned combined teaching of claim 1 fails to explicitly disclose a carousel data structure functions as the timeline data structure. The Goodman et al. reference teaches a carousel data structure that functions as the timeline data structure so as to provide a cyclic time-structured method of providing enhanced programming to the viewer. Consequently, it would have been obvious to one of ordinary skill in the art to implement the combined teaching with a timeline data structure that functions as the carousel data structure so as to provide a cyclic time-structured method of providing enhanced programming to the viewer. The trigger data structure, the announcement data structure, and the package data structure being delivered as fast as possible is implicit to the reference. Assuming arguendo with respect to the implicit teaching of the trigger data structure, the announcement data structure, and the package data structure being delivered as fast as possible, it is submitted that it would have been clearly obvious to one of ordinary skill in the art at the time of the invention to implement the combined teaching with transmitting enhancement data as fast as possible so as to advantageously provide the user with real-time interactive programming.

**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sumaiya A. Chowdhury whose telephone number is (571) 272-8567. The examiner can normally be reached on Mon-Fri, 9-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Miller can be reached on (571) 272-7353. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SAC

  
ANDREW Y. KOENIG  
PRIMARY PATENT EXAMINER